ST/PB/28

UNITED NATIONS MICROFICHE STANDARD

UNITED NATIONS

1968

FOREWORD

The adoption of microfiche by leading governments, industries and intergovernmental agencies as a means to recording and disseminating documents and publications is rapidly increasing.

Microfiche is particularly suitable for the recording of United Nations documents and for their secondary distribution in microform; up to 60 pages may be recorded on one fiche of size 105 mm. x 148 mm. By using the double frame area the copying of two facing pages is facilitated.

The present standard aims at simplification and co-ordination. The size specified in this United Nations Standard is in line with the recommendation of the International Organization for Standardization (1)*/. The frame size specified has been selected to give the maximum flexibility in the preparation of microfiche master copies and has been based on the standard 16 mm. frame size. The grid arrangement will facilitate the use of microfiches in reading or re-enlargement machines and in retrieval equipment.

The present standard takes into account the *Specification for microfiches* of the British Standards Institution (2), the *Federal Microfiche Standards* of the Committee on Scientific and Technical Information (U.S.A.) (3) and the *Specification for microfiche copies of periodicals* of the Warren Spring Laboratory, Stevenage, Herts. (U.K.) (4). Parts of the text of those standards have been incorporated verbatim in the United Nations Standard. In referring to related standards, preference has been given to recommendations of the International Organization for Standardization, whenever available.

In order to keep abreast of progress and requirements, periodical reviews of the Standard shall be undertaken and revised texts of it shall be issued as needed.

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*/ See References, p. 17.

UNITED NATIONS MICROFICHE STANDARD

1. SCOPE

This United Nations Standard lays down the requirements for microfiches produced by the Organization, or by commercial manufacturers under contract to the Organization, and containing copies of documents issued under the authority of the Organization.

It allows for only one size of microfiche and for one size of frames within the fiche.

It indicates a preferred range of scales of reduction and contains a number of recommendations concerning the [illegible]lization of certain information appearing in the title area.

2. DEFINITIONS

For the purposes of the United Nations Standard the following definitions apply:

(1) *Microfiche.* A transparent, flat, rectangular sheet of photographic film containing a number of micro-images arranged in horizontal rows and vertical columns. The microfiche also normally displays the title of the copied document in a size large enough to be read without magnification (Fig. 1 and 2).

(2) *Microfiche, Master.* A negative microfiche (obtained by photographing the original hard-copy material) used for producing further reproductions and normally stored, for security reasons, in a vault under optimum conditions.

(3) *Microfiche, Negative.* A microfiche with clear lettering on an opaque background.

(4) *Microfiche, Positive.* A microfiche with opaque lettering on a clear background.

(5) *Microfiche, Trailer.* A continuation microfiche on which are recorded images, from a multipage document, which exceed the capacity of a single microfiche.

(6) *Coden.* A unique five-letter code for the title of a periodical.

(7) *Column.* A vertical series of frames.

(8) *Envelope.* The pocket which contains the microfiche.

(9) *Frame.* A geometric subdivision of the microfiche grid. A micro-image and its margins are contained within a frame.

(10) *Frame, Single.* An area 11.25 mm. x 16 mm. on the microfiche.

(11) *Frame, Double.* An area 23.0 mm. x 16 mm. on the microfiche.

(12) *Frame margin.* The non-image area between the micro-image and the frame.

(13) *Grid area.* That area of the microfiche contained within the horizontal and vertical lines of the grid.

(14) *Grid gauge.* An inspection tool which is used to determine whether or not the micro-images are accurately positioned on the microfiche as shown in this standard (Fig. 1).

(15) *Gutter.* The combined marginal space formed by the two inner margins of confronting pages of a document.

(16) *Image.* That area within the frame which, after exposure and processing, contains the whole of the representation of the original.

(17) *Information area.* That area which contains, or can contain information and does not include the margin.

(18) *Microcopy, Micro-image.* Copy or image of original document recorded in greatly reduced dimensions.

(19) *Microform.* A generic term for any form, either film or paper, which contains micro-images.

(20) *Reference edges.* The left hand side and bottom limits of the microfiche grid.

(21) *Reference corner.* The junction of the reference edges (the bottom left corner of the microfiche grid).

(22) *Row.* A horizontal series of frames.

(23) *Title.* The descriptive identification of the material reproduced on the microfiche.

(24) *Title backing.* The material or treatment applied to the back of the title space.

(25) *Title space.* The area of the microfiche specifically allotted for title information.

3. PHYSICAL CHARACTERISTICS AND REQUIREMENTS

3.1 *Layout of fiche.* The general layout of the microfiche shall conform to Fig. 2.

3.2 *Size of fiche.* The size of the microfiche shall be 105 mm. x 148 mm. (nominal 4 in. x 6 in.) with a tolerance of $^{+\ 2.0\ mm.}_{-\ 0\ mm.}$ on both dimensions as shown in Fig. 1.

3.3 *Thickness of film.* The film used for the microfiche shall be between 0.1 mm. and 0.2 mm. thick, of sufficient rigidity for the purpose for which it is to be used.

3.4 *Base of material.* The base of material shall conform to the specifications in ISO/R 543-1966 (5).

3.5 *Thickness of backing material.* The increased thickness due to the backing material or treatment in the title space shall not exceed 0.01 mm.

3.6 *Adjacent edges.* Adjacent edges shall be perpendicular within 0.1 mm. for each 25 mm. of height of the microfiche.

3.7 *Position of micro-images.* Micro-images shall be positioned as shown in Fig. 1. All measurements are made from the reference edges and the reference corner.

3.8 *Single frame.* When the entire information area on the document to be photographed does not exceed 330 mm. x 250 mm. the micro-image should be within a single frame of 16 mm. x 11.5 mm. and approximately centred therein.

3.9 *Double frame.* When the entire information area on the document exceeds 330 mm. x 250 mm. but does not exceed 330 mm. x 500 mm., the micro-image should be within a double frame of 16 mm. x 23.5 mm.

3.10 *Oversized pages.* When the entire information area of the document exceeds the dimensions given in 3.9 above, the document shall be filmed in sections, with the sections numbered and arranged so that they read from left to right, top to bottom, the reference point being the upper left hand corner of the document being photographed. Sufficient area shall be provided for binding of pages enlarged from the microfiche.

3.11 *Position of gutter.* Where documents are photographed two pages at a time, the gutter shall be approximately centred within the frame or the double frame.

3.12 *Material to be photographed as bound.* Pages shall not be turned when filming to provide right-reading in normal reading position in the microfiche. For example, pages not exceeding 330 mm. x 229 mm. (13 in. x 9 in.) which are printed in the original document with type reading across the 330 mm. (13 in.) dimension shall be filmed as appearing in the document.

3.13 *Reduction.* The reduction shall be from 1/18 to 1/22 inclusive.

3.14 *Diagonal cut.* To facilitate microfiche-to-microfiche copying and automated print-out, microficnes shall bear a diagonal cut at the appropriate top corner to identify the sensitized coating size of the microfiche. For example, the top left corner shall be cut when the sensitized coating is towards the observer and the image is right-reading. The cut shall not extend more than 3 mm. from the edge in either the vertical or the horizontal dimension.

4. UTILIZATION OF GRID AREA

4.1 *Splitting of text between microfiches.* No text of less than fifty (50) pages shall be split between microfiches. If documents are grouped together to make a total of no more than fifty pages, the grouping shall be done so that each language version of the same text can be copied on no more than one microfiche. Where a single document cannot be copied on a single microfiche, as many trailer sheets as required shall be used.

4.2 *First microfiche sheet.* The contents of all microfiches, except those containing texts of *Addenda* and *Corrigenda* and of *Revisions*, shall be as specified below in 4.2.1 through 4.2.7.

4.2.1 *Row A.* Row A of the first microfiche sheet shall be dedicated for numbering, language and distribution codes, and title information, all of which shall appear always in opaque lettering on a clear background, colour backed where and as required. All entries in Row A shall be readable without magnification. No more than four lines of information shall be shown in Row A.

4.2.1.1 *Frames A1 and A2.* Frames A1 and A2 of the first microfiche sheet shall contain, from top to bottom, the following information, in bold face type:

(a) Microfiche number, on line 1, and 2 if necessary;

(b) Language code, centred on line 3;

(c) Distribution code, on line 4, flush left.

4.2.1.2 *Frames A3 through A12.* Frames A3 through A12 of the first microfiche sheet shall contain, from top to bottom, the following information:

(a) Document number, on line 1, in bold face type. In the case of documents without number, the line shall be left blank;

(b) Title of organ and/or subsidiary organ, on line 2, in capital letters. In the absence of an organ, line 2 shall contain the title of the document, in capital letters;

(c) Series title, on line 3, in normal type;

(d) Date of document, additional document numbers, and pagination, on line 4, in normal type, as follows:

(i) At the bottom of frames A3 and A4, date of document, or date of first and last document contained in the microfiche sheet;

(ii) At the bottom of frames A5 through A10, additional document numbers, in parentheses;

(iii) At the bottom of frames A11 and A12, the total number of pages comprising the document being copied, if the microfiche sheet, and the trailers as required, contain only one document.

4.2.1.3 *Periodicals.* In the case of periodicals, frames A3 through A12 shall contain the following:

(a) On line 1: Document number, if available, in bold face type;

(b) On line 2, frames A3 through A11: The title, in capital letters, and subtitle, if any, in normal type, of the periodical; as given on the cover or title page;

(c) On line 2, frame A12, the coden (6) in capital letters;

(d) Line 3, reserved to accommodate overflow of title information from line 2;

(e) On line 4, frame A3 through A12, in normal type:

(i) The series number (if any);

(ii) The volume number (if none, the year);

(iii) The part number (if any);

(iv) The numbers of the pages included in the microfiche;

(v) Any other relevant particulars, including date of volume if not already given.

4.2.2.1 *Frame B1.* Frame B1 of the first microfiche sheet shall be left as a clear blank space so that other organizations or users may utilize this area for insertion of their own reference or codes.

4.2.2.2 *Frame B2.* Frame B2 of the first microfiche sheet shall contain, reading from top to bottom, the following:

(a) The total number of microfiche sheets used to copy the entire document (e.g., "1 of 1", "1 of 3", etc.). This shall be in opaque bold face type on a clear background and shall be readable without magnification;

(b) The microfiche number, in opaque bold face type on a clear background, readable without magnification;

(c) A legibility test chart conforming to ISO/R 446-1965 (7) and to ISO/R 689-1968 (8).

4.2.2.3 *Frame B3.* Frame B3 on the first microfiche sheet shall be left as clear blank space so that a fiche index or coded information may be entered on it as and when required.

4.2.2.4 *Frames B4 through F12.* The text of the copied document(s) shall commence on frame B4. The first frame (B4) shall contain the copy of the front cover, if the document has one. The sequence of pages on the microfiche shall correspond to the order and position in which the pages are normally read, bearing in mind the type of material and the characteristics of the language copied.

4.2.3 *Cover pages.* Outside and inside front and back cover pages shall be considered part of the document and shall be copied, with the exception of totally blank pages.

4.2.4 *Blank pages.* Blank pages normally shall not be copied on the microfiche. If numbered blank pages are not photographed, the annotation PRECEDING PAGE(S) BLANK*/ shall be inserted at the top of the following image.

4.2.5 *Blank frames.* Blank frames due to the copying of blank pages in the document or to technical reasons shall be marked by the word BLANK*/ appearing in the center of the frame.

4.2.6 *Pages notation.* The total number of images comprising the document shall be inserted in parentheses in the lower left corner of the first page of each document to be photographed. Example, (25 p.). Outside and inside cover pages shall be included in the count if they contain text; blank pages, whether photographed or not, shall not be included. The end of each document shall be marked by a string of *five dashes* ("-----") displayed centrally at the end of the last page of the document.

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*/ To be superseded by symbols now under consideration.

4.2.7 *Last recorded frame.* The last recorded frame on each microfiche shall contain the word "CONTINUED"*/ or "END"*/, whichever applies, according to the following:

(a) If a trailer microfiche is not required the last recorded image shall contain, from top to bottom, the word "END"*/ and the date of filming (day, month, year) in bold face type readable without magnification;

(b) If the last frame (F12) is occupied by the image of the last page of the document, the notation described in (a) above shall be displayed on one line at the end of the page in a type and size readable without magnification, or, if space does not permit, in reduced size;

(c) If a trailer microfiche follows, frame F12 shall contain, from top to bottom, the word "CONTINUED"*/, the annotation "1 of 2", "1 of 3", etc., as required, and the date of filming (day, month, year).

4.2.8 *Microfiches containing Addenda and Corrigenda.* The specifications in 4.2.1 through 4.2.7 shall apply to microfiches containing *Addenda* and *Corrigenda* with the following exceptions:

(a) Each microfiche sheet shall contain modifications of only one document;

(b) The microfiche number shown in frames A1 and A2 shall be the same as that of the original document being corrected or added on, except that the code "+" shall be inserted at the end. For example, 68.A.0001+;

(c) In frames A3 through A12 the title information shall be limited to:

(i) On line 1, document number, reading as in 4.2.1.2.(a) above, or title, reading as in 4.2.1.2.(b) above;

(ii) Line 2 shall be utilized for long titles requiring more than one line;

(iii) Line 3 shall contain the expression "ADDENDA-CORRIGENDA"*/;

(iv) Line 4 shall not be utilized;

(d) Frame B2 shall contain all the elements described in 4.2.2.2 above, except that the notation "Card 1" shall be used at the top of the frame instead of "1 of ...";

(e) Frames B4 through B12 are allocated to *Corrigenda* and therefore only texts of *Corrigenda* shall be recorded in these frames;

(f) Frames C1 through F12 are allocated to texts of *Addenda;*

(g) The annotation in F12 described in 4.2.7.(c) above, shall read "Card 1" instead of "1 of 2".

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*/ To be superseded by symbols now under consideration.

4.2.9 *Microfiches containing Revisions.* The specifications in 4.2.1 through 4.2.7 shall apply to microfiches containing *Revisions* with the following exceptions:

(a) Each microfiche sheet shall contain a revision of only one document;

(b) The microfiche number shown in frames A1 and A2 shall be the same as that of the original document being revised except that the code (R) shall be inserted at the end. For example, 68.A.0001(R) or 68.A.0001-(R), whichever applies.

4.3 *Trailer microfiches*

4.3.1 *Instances of use of trailer microfiches.* Trailer microfiches shall be used in the following instances:

(a) When a multipage document exceeds the capacity of a single microfiche;

(b) When recording additional texts of *Addenda* or *Corrigenda* received after filming the first microfiche.

4.3.2 *Utilization of frames in trailer microfiches.* The specifications laid down above for the first microfiche sheet apply also to trailer microfiches. As a rule, the full title as specified in 4.2.1.2, 4.2.1.3 and 4.2.8.(b) and (c) shall be repeated on any trailer microfiche. Appropriate modifications shall be inserted in:

(a) Annotation containing the numbers of the pages included in the fiche, in the case of periodicals (*see* 4.2.1.3.(e).(iv) above);

(b) Frame B2 where the annotation on the second line shall be "2 of 2", or "Card 2", or whatever is appropriate (*see* 4.2.2.2 and 4.2.8.(d) above);

(c) Frame F12, where the annotation on the second line shall be "2 of 3", or "Card 2", or whatever is appropriate (*see* 4.2.7.(c), above).

As specified in 4.2.8.(f) above, frame C1 shall be the beginning point for the continuation of texts of *Addenda*.

5. QUALITY OF MICROFICHE

5.1 *Master copy* (first generation micro-images produced by the camera)

5.1.1 *Legibility.* The degree of legibility shall be determined by the use of ISO mire described in ISO/R 446-1965 (7). At a reduction of 1/20 it shall be possible, by the use of suitable reading apparatus, to resolve ISO characters between No. 160 and No. 90 as specified in ISO/R 689-1968 (8).

5.1.2 *Density.* Normal background density on conventional silver halide negative film obtained from originals with dark coloured characters or lines on light background, shall be between 0.9 and 1.2, when measured in accordance with ISO/R 5-1954 (9). This may be exceeded provided the active image area density is not greater than 0.2. In those cases where the quality of the original document would result in a substandard image and it is essential that these images be incorporated in the microfiche, a note explaining the reason for the deficiency shall be included at an appropriate place in the filming sequence.

5.1.3 *Processing.* The film shall be processed to archival standards in accordance with USAS/PH 1.28-1957 (10), USAS/PH 1.31-1965 (11), and ISO/R 417-1965 (12).

5.2 *Distribution copy* (microfiche duplicates)

5.2.1 *Legibility.* The degree of legibility shall be determined by the use of ISO mire described in ISO/R 446-1965 (7). At a reduction of 1/20 it shall be possible, by the use of suitable reading apparatus, to resolve ISO characters between No. 160 and No. 90 as specified in ISO/R 689-1968 (8).

5.2.2 *Curl and bow.* A fully processed microfiche, when cut to distribution size and placed on a flat surface for at least 6 hours in a 20°C, 50% relative humidity atmosphere, shall have no part of the microfiche more than 6 mm. above the surface.

5.2.3 *Characteristics of duplicates.* Microfiche duplicates for distribution shall be in negative with the title space in positive, colour backed.

5.2.4 *Protective coating.* In order to reduce accidental scratching and/or avoid the accumulation of dust, the emulsion side of the fiche may be treated with a special material. If the fiche is treated in this way, the increased thickness due to coating shall not exceed 0.01 mm.

6. CODING RECOMMENDATIONS*/

6.1 *Microfiche sheets*

6.1.1 *Microfiche number.* It is recommended that the microfiche number consist of three elements, separated by periods, as follows:

(a) The last two digits of the year during which the microfiche is produced;

(b) One or two letters denoting the organ or type of material;

(c) Four digits denoting the sequential number of the microfiche within the organ or type of material code.

For example, 68.A.0001.

6.1.1.1 *Addenda and Corrigenda.* It is recommended that microfiches containing *Addenda* and/or *Corrigenda* be assigned the same microfiche number that was assigned to the document being added to or being corrected and that the code "+" be shown at the end of the number. For example, 68.A.0001+.

6.1.1.2 *Revisions.* It is recommended that microfiches containing revisions of previous texts, be assigned the same microfiche number that was assigned to the document being revised and that the code "(R)" be shown at the end of the number. For example, 68.A.0001(R), 68.A.0001+(R).

6.1.1.3 *Language versions of the same document.* It is recommended that language versions of the same document be assigned the same microfiche number. The language code is sufficient to differentiate one version from the other.

6.1.2 *Language codes.* It is recommended that the following language codes be used to describe the language of the text recorded on the microfiche:

A	Arabic	F	French
C	Chinese	R	Russian
E	English	S	Spanish

*/Additional detailed instructions are contained in document, Microfiche codes for United Nations documents (April 1968).

6.1.3 *Distribution category code.* This code is used to indicate the category of recipients to which the microfiche may be made available. It is recommended that the following codes be used:

GEN	General distribution
LIM	Limited distribution
INT	Internal distribution only
PAR	Participants only
RES	Restricted distribution (limited security classification, excluding materials to be classified under code SEC)
SEC	Confidential (not to be distributed without clearance from a specified office or to recipients not listed in the SEC roster).

6.1.4 *Colour of title backing.* To facilitate manual sorting of microfiches by type of material recorded on them, it is recommended that the title space be backed by a contrasting light colour according to the following code:

WHITE	Documents in series intended for general distribution
BLUE	Official Records
YELLOW	Sales publications (materials which are for sale but not Official Records or Periodicals)
GREEN	Periodicals
BROWN	Press releases
PINK	Restricted distribution materials
RED	Confidential materials
GREY	Provisional texts and material for internal distribution, or for limited distribution, or for participants only.

6.2 *Envelopes*

6.2.1 *Colour of envelopes.* To facilitate manual handling and sorting, it is recommended that the pockets containing the microfiches be colour-coded to show the language of the texts recorded on the fiche. The use of the following code is recommended:

WHITE	English	PINK	Russian
BLUE	French	GREEN	Chinese
YELLOW	Spanish	GREY	Arabic

6.2.2 *Name and emblem of the Organization.* It is recommended that envelopes bear the official emblem of the Organization centred above the name of the Organization given in the language appropriate to the colour of the envelope (Fig. 3).

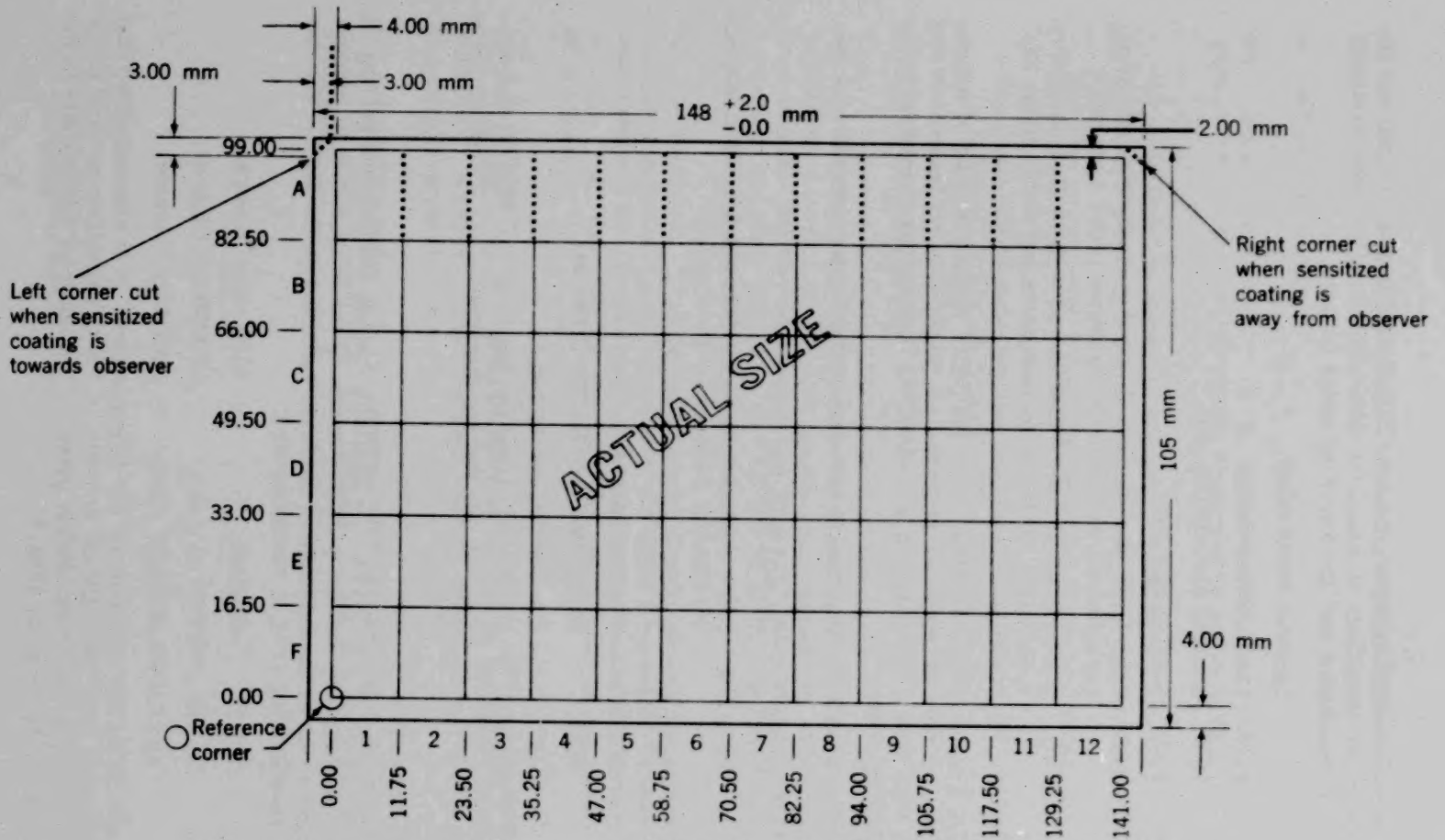

Figure 1. Microfiche dimensions and grid gauge

Note 1. Dimensions are in millimetres.

Note 2. Line width is 0.5 mm.

Note 3. Dimensions are to centre of lines.

Note 4. Tolerance on position of overall grid pattern, from far left to far right, and from top to bottom, is ±0.5 mm. If an adjustment within this tolerance is necessary, it should be made in the top or right margin.

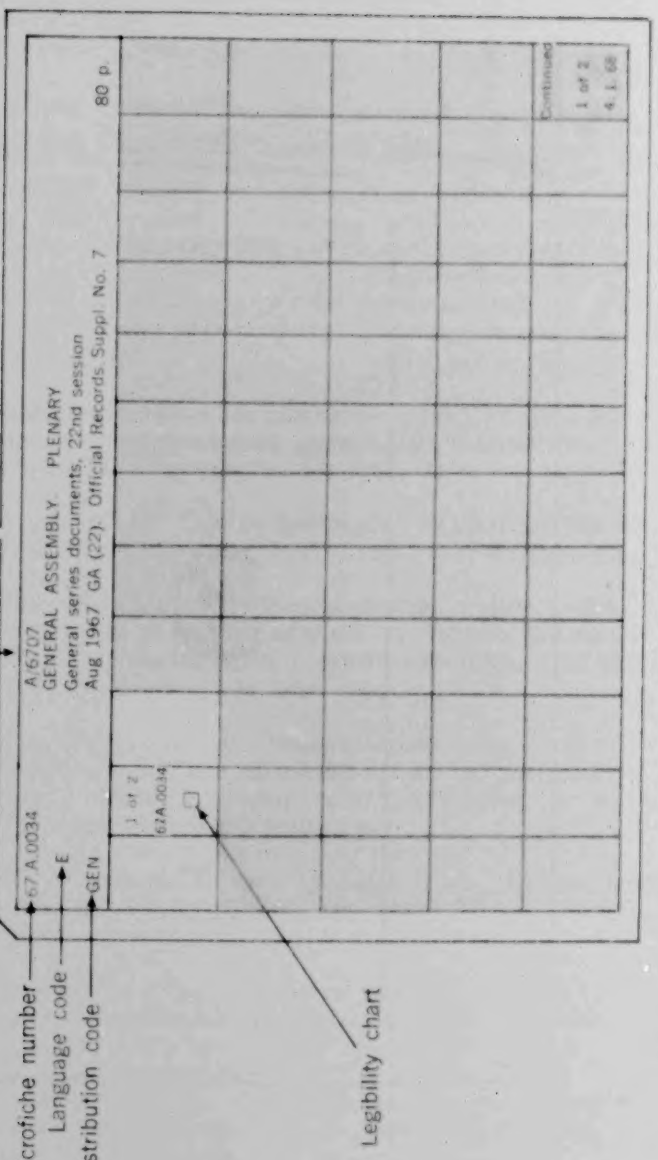

Figure 2. Utilization of grid area

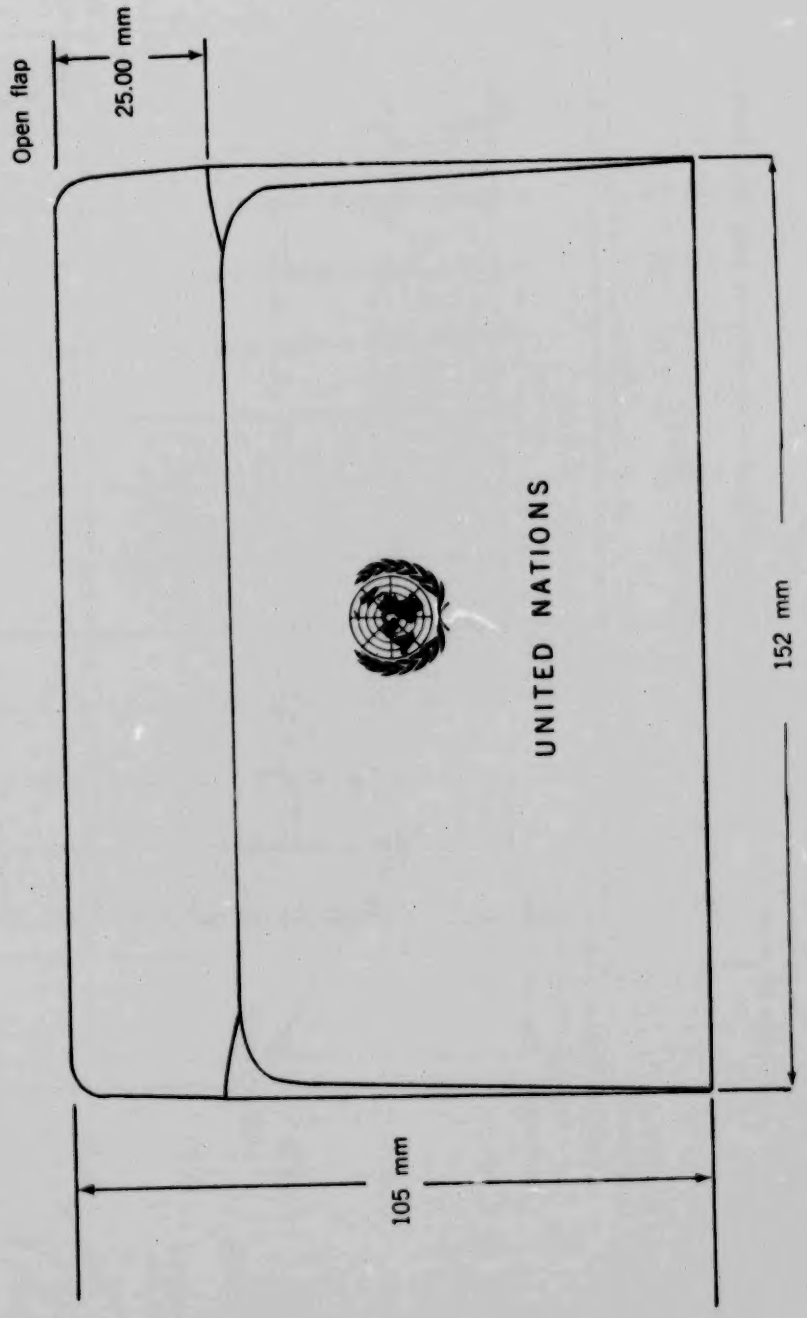

Figure 3. Envelope

REFERENCES

(1) International Organization for Standardization. Microcopies on transparent bases. Sizes of recommended bases. (ISO/R 193-1961). Geneva, The Organization, 1961. 3 p.

(2) British Standards Institution. Specification for microfiches. (BS 4187: 1967). London, The Institution, 1967. 13 p.

(3) U.S.A. Federal Council for Science and Technology. Committee on Scientific and Technical Information. Federal microfiche standards. (PB.167 630). 2nd ed., Dec 1965. 14 p.

(4) U.K. Ministry of Technology. Warren Spring Laboratory. A specification for microfiche copies of periodicals. Stevenage, Herts., The Laboratory, 1968. 5 p.

(5) International Organization for Standardization. Definition and marking of safety film for motion-picture uses. (ISO/R 543-1966). 1st ed., Dec 1966. Geneva, The Organization, Apr 1967. 11 p.

(6) American Society for Testing Materials. CODEN for periodical titles. Philadelphia, Pa., The Society, 1966, 2 vols. (ASTM Data Series DS 23 A).

(7) International Organization for Standardization. Microcopies. Legibility tests. Description of the ISO mire (ISO test object) and its use in photographic document reproduction. (ISO/R 446-1965). 1st ed., Sep 1965. Geneva, The Organization, Feb 1966. 7 p.

(8) International Organization for Standardization. Microcopies. Legibility tests. Description and use of the ISO micromire (ISO micro test object) for checking a reading apparatus. (ISO/R 689-1968). 1st ed., Mar 1968. Geneva, The Organization, Sep 1968. 7 p.

(9) International Organization for Standardization. Diffuse transmission density. (ISO/R 5-1954). 1st ed., Oct 1955. Geneva, The Organization, 1955. 22 p.

(10) U.S.A. Standards Institute. American standard specifications for photographic films for permanent records. (USAS/PH 1.28-1957). New York, The Institute, Nov 1957. 11 p.

(11) U.S.A. Standards Institute. American standard method for determining the brittleness of photographic film. (USAS/PH 1.31-1965). New York, The Institute, Apr 1965. 11 p.

(12) International Organization for Standardization. Methods for determining thiosulphate and tetrathionate in processed black-and-white photographic film, plates and papers. (ISO/R 417-1965). 1st ed., Mar 1965. Geneva, The Organization, Aug 1965. 12 p.